

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/023490A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G03F7/20 G02B27/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01L G03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 571 997 A (AIR PRODUCTS AND CHEMICALS, INC) 1 December 1993 (1993-12-01) abstract figure 1 column 1, line 3 - line 8 column 3, line 53 - line 58 column 5, line 24 - line 36 column 6, line 22 - line 39	1, 18
A	----- -/--	7, 24, 44-47

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

7 June 2005

Date of mailing of the international search report

06/07/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Andersen, O

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/023490

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 582 496 B1 (CHENG KWOK-SHUN ET AL) 24 June 2003 (2003-06-24) cited in the application abstract figure 1 column 1, line 5 - line 10 column 3, line 6 - line 21 column 6, line 36 - column 7, line 11 -----	1,7,18, 24,44-47
A	US 4 704 348 A (KOIZUMI ET AL) 3 November 1987 (1987-11-03) abstract figures 2,3 column 1, line 7 - line 11 column 2, line 55 - column 3, line 18 column 3, line 30 - line 49 -----	1,7,18, 24,44-47
A	US 2002/057423 A1 (NOGAWA HIDEKI) 16 May 2002 (2002-05-16) abstract figure 1 paragraph '0001! paragraph '0009! -----	1,7,18, 24,44-47
A	EP 0 678 321 A (ESSEX INVENTION S.A; A.E.T. S.R.L) 25 October 1995 (1995-10-25) abstract figure 1 column 1, line 1 - line 9 column 5, line 34 - line 41 -----	1,7,24, 44-47

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/023490

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0571997	A	01-12-1993	US 5240472 A	31-08-1993
			CA 2096927 A1	30-11-1993
			EP 0571997 A1	01-12-1993
			JP 2575333 B2	22-01-1997
			JP 6170147 A	21-06-1994
US 6582496	B1	24-06-2003	US 2003192428 A1	16-10-2003
			AU 3477000 A	18-08-2000
			EP 1148931 A1	31-10-2001
			JP 2002535129 T	22-10-2002
US 4704348	A	03-11-1987	DD 160756 A3	29-02-1984
			CH 651423 A5	13-09-1985
			DE 3214325 A1	27-01-1983
			FR 2504696 A1	29-10-1982
			GB 2100453 A , B	22-12-1982
			JP 57177144 A	30-10-1982
			KR 8600158 B1	27-02-1986
			NL 8201726 A	16-11-1982
			SU 1238274 A1	15-06-1986
US 2002057423	A1	16-05-2002	JP 2002158154 A	31-05-2002
EP 0678321	A	25-10-1995	IT GE940036 A1	25-09-1995
			IT GE940035 A1	25-09-1995
			DE 69514564 D1	24-02-2000
			DE 69514564 T2	23-11-2000
			EP 0678321 A2	25-10-1995
			US 5528905 A	25-06-1996